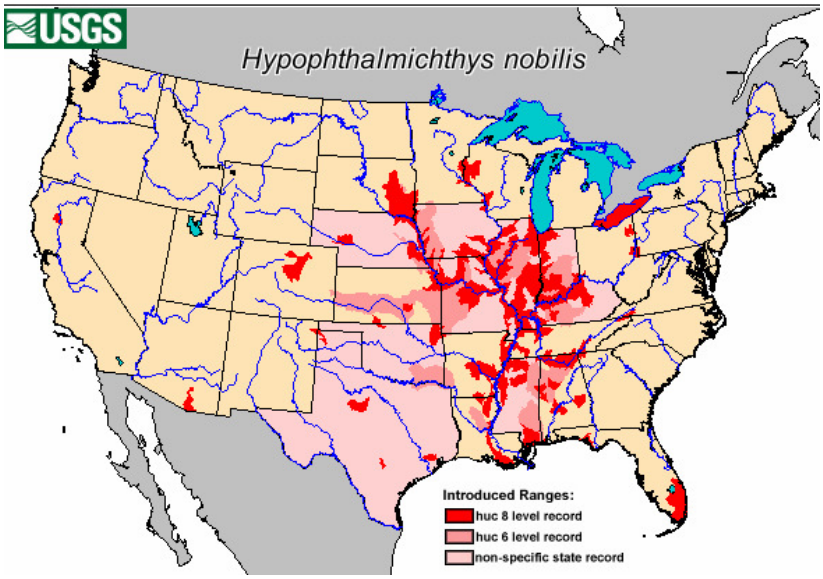
BIGHEAD CARP

COMMON NAME: Bighead Carp
This fish may also be referred to as noble fish, speckled amur, or lake fish.

SCIENTIFIC NAME: *Hypophthalmichthys nobilis*
The bighead carp was formerly known as *Aristichthys nobilis* but that is no longer its accepted scientific name. It belongs to the Cyprinidae family, which is the carp and minnow family.



DISTRIBUTION: The bighead carp native to China. Currently this fish has expanded its range to include the United States. Bighead carp are found throughout much of the Mississippi River basin and apparently reproducing in much of this area as well. There are relatively few isolated reports of bighead carp outside of the Mississippi basin.

Indiana: Bighead carp have been reported in every large river system in Indiana up to a dam that blocks upstream movement. They have been found in the Wabash River up to Huntington dam, the Tippecanoe River up to Oakdale dam, the White River up to Williams Dam on the East Fork, and to the dam in Martinsville on the West Fork of the White River, as well as the entire length of the Ohio River and its embayments.

DESCRIPTION: The body of a bighead carp is laterally compressed with the top being a dark gray color which grades down to off white on its belly. It has many dark blotches on its sides. Its head is comparatively large with no scales and a large terminal mouth. The bighead has no teeth and its lower jaw protrudes out farther than its upper jaw. The eyes are situated low on its head and are positioned downward. The scales of a bighead carp are small and resemble the scales of a trout. This species is very similar to another exotic Asian carp found in the United States, the silver carp. The bighead carp has a keeled belly from approximately its pelvic fins to the anal fin, whereas the silver carp has a sharp keel from the anal fin to the throat. They can also be distinguished by the fact that the bighead carp has many dark blotches on its sides and the silver carp does not. Indiana's record bighead carp weighed 53 lbs 8 oz and was caught in 2000. An 85 pound bighead was arrowed by a bowfisherman in Alabama in 2004.

LIFE CYCLE BIOLOGY AND LIFE HISTORY: Bighead carp are exclusively freshwater fish. They prefer large rivers and will not spawn in still water or small streams but do inhabit lakes and ponds. Spawning occurs after spring rains have flooded the rivers and when the temperature of the water reaches 77^{o} F. External fertilization takes place and the eggs float downstream. Bighead carp grow rapidly and once they reach maturity they are able to gain a pound or more per month. They feed on zooplankton but they are opportunistic feeders, meaning if zooplankton levels are low they will eat phytoplankton and detritus. They filter the water through their comb-like gill rakers so they only consume those organisms small enough to penetrate their filter feeding apparatus.

PATHWAYS/HISTORY: In 1972 a private fish farmer from Arkansas imported bighead carp to control aquatic weeds in his ponds. Beginning in the early 1980's bighead carp were being found in the open waters of the Ohio and Mississippi Rivers. It is likely that the fish in these rivers were escapees from aquaculture facilities and farm ponds. One such event where several bighead carp escaped from a facility was in Missouri in 1994. A flood caused the fish to escape into the Osage River. These fish spread to the Kansas River and the Missouri River. It is reported that bighead carp spawn in the Missouri, Illinois and Mississippi River's. It appears as though bighead carp spawn in Indiana's rivers as juvenile bigheads have been collected. Currently there are carp in upper Illinois River near the Chicago Sanitary and Ship Canal. This man-made canal connects the Mississippi River watershed to the Great Lakes watershed and is a pathway for bighead carp to reach the Great Lakes. It is estimated that bighead carp are 40 miles away from entering the Great Lakes system.

DISPERSAL/SPREAD: Bighead carp were imported into the country to "clean up" aquaculture ponds by filtering the water. Floods in the areas of these stocked ponds facilitated the release of the bighead carp into open waters. Once in open waters they began to spawn and disperse themselves. Bighead carp may also be spread by bait releases. Juvenile bighead carp are a popular bait item but using them in this way enhances their ability to establish in new areas. This fish is very important to the Asian culture and is readily sold in Asian markets. It is thought that some introductions of bighead carp were to establish a local food source.

RISKS/IMPACTS: The main fear that biologists have in regards to the bighead carp is that it consumes the exact food that our native filter feeders eat, as well as what most juvenile fish eat. Because the bighead carp can reach such a large size they put extreme pressure on zooplankton populations. This loss of food for our native species could result in their population declines. Bighead carp especially affect paddlefish, bigmouth buffalo, gizzard shad and native mussels. Also, declines in the zooplankton population can result in dense planktonic algae blooms.

These fish also pose an economic threat. In areas where bighead carp are so numerous, they are fouling the nets of commercial fisherman to the point where they can no longer lift their nets and are forced to abandon those fishing spots.

Bighead carp is a preferred food for the Asian community. Worldwide bighead carp ranks fourth in total production. With the Asian American population on the rise there is more and more pressure for Asian markets in the U.S. to supply bighead carp.

MANAGEMENT/PREVENTION: One major concern that biologists have is how this fish will impact the Great Lakes if it enters that watershed. To stop the carp from reaching Lake Michigan and thus entering into an entirely new watershed, the U.S. Army Corps of Engineers built a temporary electrical barrier in the Chicago Sanitary and Ship Canal that became operational in 2002. A larger permanent electric barrier has been installed and began functioning in April 2009, nearly 4 years behind schedule. Besides using electricity as a barrier, tests have shown that Asian carp also flee from noise and bubbles.

The U.S. Fish and Wildlife Service has proposed including bighead carp on the list of injurious fish species. If adopted, this would prohibit importation into the United States and interstate transport of the fish. Indiana prohibits the importation, possession, or release of bighead carp into public or private waters. If a bighead carp is caught in Indiana, it must be killed immediately and not returned to the water. An aquaculture permit may be provided for medical, educational or scientific research purposes.

Preventing the spread of the bighead carp is the main management objective. There are a few things that you can do to help stop the spread of bighead carp and other invasive fish species.

- ✓ Learn how to correctly identify this and other invasive species.

- ✓ If fishing with bait you collect yourself, consider using baitfish from the water where you are fishing.

- ✓ Dispose of unused bait on land or in the trash, never in water.

- ✓ Always drain water from your boat, livewell and bilge before leaving the access area.

- ✓ Never transfer fish from one body of water to another.

- ✓ Immediately kill all bighead carp and other Asian carp that are caught.

- ✓ Report new sightings of bighead carp to the Indiana Department of Natural Resources, Division of Fish and Wildlife. Photographs may be beneficial for identity verification.
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